

**ABSTRACT**

A multi-frequency tone detector with analysis window (i.e. filter size) chosen such that spectral nulls are located at adjacent frequencies of interest. The decision logic block of the tone detector uses the roll-off characteristics of the filter in conjunction with background noise to determine a threshold pass/fail for any tone that has deviated excessively from its nominal value. The foregoing aspects of the invention result in simple filter design (i.e. reduced order) relative to prior art tone detectors.